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RAVINES SOUTH OF BOTANY-BAY, NEW SOUTH WALES.

SKETCHES OF NEW SOUTH WALES.

No. XVIII.

ACCOUNT OF COUNTRY SOUTH OF BOTANY BAY, IN THE COUNTY OF CUMBERLAND.

THE country and coast which lies south of Sydney, between Botany Bay and the Shoal Haven River, is also worthy of notice from its singularity of features; and in order to describe this portion of territory, it may be best to arrange it under two separate divisions, the one part being in the county of Cumberland, the other in the county of Camden. I will commence, therefore, with a description of that portion of Cumberland which I was instructed to survey in 1830, and which is bounded as follows:—on the north by Botany Bay and George's River to Liverpool, a distance of about twenty miles; on the west by Tuggerah Creek, (which stream is a continuation, and may be called the principal head of the above river,) to its source, about twenty-three miles. On the south by the Illawarra range, and road to the descent of the mountain, about thirteen miles, and on the east by the sea-coast for nearly thirty miles.

The country *within* the above limits is not altogether dissimilar in character to that between Port Jackson and Broken Bay, (of which a short description has been given in a former paper,) though the feature of the *sea-coast* is in many respects very different; consequently, in describing the scenery of a country whose features bear a characteristic resemblance to other places before treated of, various repetitions may occur which may seem unnecessary; but it must be important, in a geological point of view, to show wherein the similarity of feature lies, and where the force of waters has tended to produce similar effects upon the surface. In doing this, it would be impossible to follow any method of description which shall not involve considerable repetition, my object being merely to communicate a knowledge of those few tracks of country which have come under my own particular observation and survey, the nature of which, to the present day, are known only to a few individuals, and which may still remain unknown and unvisited for years to come.

Like the country north of Port Jackson, this portion is also intersected by three *principal* streams, which take their rise from the Illawarra range near the road, and also flow directly northward. Their chief sources are in extensive swamps on very high land, at the back of the coast-range. These swamps appear green, are in many places furrowed as if with a plough, are very watery and nearly destitute of timber*.

The most westerly stream is called by the natives Tuggerah (cold) Creek, which, flowing northward parallel with, and near to the Appin and Campbell-town roads, unites with George's River in an acute bend near the town of Liverpool, and there makes eastward towards the sea. The centre stream, which is the largest, and called the "Woronora," also flows into George's River near its opening into Botany Bay; and the other stream, (whose native name I forget, but which is sometimes called the Port Hacking River,) flows into that port a few miles south of Botany Bay. There are, of course, innumerable minor tributary streams running into these, which only the minute tracings on a large map could properly define. The ridges which divide these deep water-courses are, for the most part, broken, precipitous, and barren; they are covered, as usual in such tracts of country, with low straggling trees and

brushwood, offering a dreary and melancholy aspect, and though they are in many places very narrow and rocky, yet they do not possess, in the foundation and strata of the rocks, that peculiar and striking appearance which distinguishes the country north of Sydney. There are some parts, however, about the centre of this portion of country, which are very wild and difficult to explore, where a confused mass of hollow misty ravines and broken pointed ridges are so jumbled together, and concentrated, that it quite puzzles and bewilders the imagination in beholding them.

The accompanying sketch represents the appearance of some of these ridges as may be viewed about seven miles eastward of Mr. Hamilton Hume's residence at Appin. It will be observed that these summits appear nearly upon an equal level, which is the case with the generality of them, and consequently when this country is overlooked from a distant eminence, these deep ravines are not perceived, but the surface of the country presents a dull, wooded, flat appearance. The mountain-coast range, however, is more irregular in its outline, it dips in low connexions, and rises between Port Hacking and the Illawarra road in rounded hills and bluff masses. In the vicinity of the ridges where this sketch was taken, (another view of which has been sketched upon my plan of the survey, and deposited in the Surveyor General's department,) no traveller could cross directly eastward from the Appin road to the sea-coast, although the distance does not exceed fifteen miles. At the fall of some of the swamps, from which the waters supplying the creeks fall suddenly into their confined channels, there are several romantic cataracts which vary in their depth of fall, and in their bodies of water. From this circumstance, one stream which also takes its rise near the descent of the Illawarra road, was named by the late Surveyor General Oxley, the Cataract River, which will be hereafter mentioned.

It was on one of the ridges leading to this intricate spot, that we found the skeleton of a horse. It had a chain and log of wood fastened to one of the fore-legs, and the animal, wandering probably in search of water or pasture, had got himself entangled and must have been starved to death. These centre ridges, as they approach George's River and Botany Bay, change their appearance and abrupt formation. On the flat table summits of some of them there are singular and unaccountable patches of excellent forest-land, perfectly detached, and surrounded by the complete sterility of white sand, low scrub, and rock. These patches, which in some places cover more than a hundred acres, and in others less, appear at a distance little elevated points, from the circumstance of the trees rising suddenly with their tall shafts above the surrounding scenery. They are heavily timbered with the iron-bark and forest oak-trees, both valuable in the neighbourhood of towns, and the soil, moreover, is good, and clothed with rich pasturage.

Now, it is evident, that these patches of land, from their proximity to the towns of Sydney and Liverpool, and the means of water-carriage to them, must soon become very valuable; and although most of them have been granted away to settlers, they have, with one or two exceptions, remained neglected. Sums of money might be realized from them by the means which they afford for making shingles, and splitting posts and rails for fences, thereby clearing the land with a great profit. Again, this kind of timber in the neighbourhood of Sydney will every year decrease, and consequently must rise in value,

* The Emu frequents, as well as the wild Turkey, these swampy plains, and were seen at various times by myself and party.

and already, many gentlemen, who have estates in the neighbourhood of Sydney, and between the Parramatta road and George's River, will neither allow their timber to be cut down, nor their lands to be trespassed on. Some park-deer, which were brought to New South Wales many years ago, and let loose, have increased wonderfully, and it was no uncommon circumstance for sportsmen to take their guns into the bush not many miles from Sydney, and return in the evening with a fine doe or buck behind their saddles. In consequence of this, the late Dr. Wardell caused to be inserted in the newspaper the laws and regulations respecting deer and game in England, and prohibiting every person from trespassing on his grounds (at Petersham, about six miles from Sydney), for that purpose.

These bush-lands, therefore, are beginning to show their park-fences, and display an importance, which, from their former dreariness, and gloomy aspect, might not have been expected. There are several parcels of land on the south side of George's River, which have been occupied and cultivated many years, some of which are situated in such sequestered glens, corners, and nooks of the ranges, as scarcely to be known, or visited, except by their respective occupiers. Many of these people gain a livelihood, some by fishing, others by making lime from the shells, and taking it to Liverpool in boats, &c., to which place the river is navigable for barges. There are also some tracts of forest-ranges, which fall upon George's River between Liverpool and Campbell-town. When following these down with my party, we fell in with wild horses which were in exceeding good condition. I afterwards heard that many attempts had been made by stock-keepers to drive them in, but in vain. The nature of the ground is such, that the wild animals can gallop into the secure retreat of ravines where no horseman dare follow. The only likely method of getting them would be by stratagem, which is sometimes practised in securing horses that have strayed away; for the more simple and gentle, the method of catching, treating, and subduing wild horses, the better. I have seen a wild horse caught by a rope thrown over its head, and then fastened to a post. The animal got frightened, ran off, pulled and struggled till he broke his neck. All these patches of forest-land abounded with the larger sort of kangaroos, at the time I was employed in surveying the ground, and scarcely a day passed without our dogs killing two or more of them. There are some farms on the south side of Botany Bay, and a very fair run for cattle on the ranges to the westward. This side is more irregular than the other, being indented with bays, mud-banks, and mangrove-flats by the shore. But some parts of the land which divides the bay from Port Hacking, is rather of a peculiar formation.

The headlands are here also separated from the main land by sand-bars, as before described. A chaos of low sandy ridges, without form or order, have been thrown up in an extraordinary manner. In some places the steep banks of sand run in rows, then cross-ways; in others hillocks have been formed, pyramidal, unconnected (the sport and plaything of the wave), assuming a variety of curious accidental shapes. But it is evident from the vegetation which exists in many places upon it, that it has not been disturbed or inundated by the sea for many years. Some of the sandy flats which are sheltered, abound with the cabbage-trees, fern, and apple-trees, and although they are not clothed with grass, yet the soil must be very productive. The elevated points between the headlands possess this sandy character,

but there the land is barren and exposed; circular pools of water and small swamps abound upon it, with green patches of dry and rough herbage scattered here and there.

The entrance to Port Hacking is narrow and dangerous, and never attempted by vessels of any size. It is almost blocked up by a reef of sunken rocks, which rise straight across from one point out to the other, over which the waves are seen to break and give warning of danger. The headlands, both north and south, are composed of black rocks, which are neither high nor striking in appearance. The south head of Port Hacking is perfectly bare, and many of the neighbouring hills are altogether destitute of timber, and being covered with green herbage, they appear from the sea like cultivated farms. From this point a range of mountain extends southward along the coast towards Illawarra, and attains a great height, where the public road before mentioned descends into that rich and luxuriant district. On the west side of this range are the gullies of the Port Hacking river, but its eastern side falls in perpendicular cliffs upon the sea-shore for several miles.

There is no harbour or inlet for vessels of any description, and but one or two short sandy beaches between Port Hacking and the Coal Cliff. Near this point there is a farm called Stanwell Park, which is romantically situated in the first recess of the mountain-range. A flat, and some land cleared on the inner side of one of the cliffs, are clearly distinguishable from the summits, together with a beautiful wide beach, whose finely-curved line, from the base of one rugged precipice to the other, is a conspicuous object in the grandeur of the scene, though everything below appears so diminutive from the rocky heights above. The coast between Port Jackson and Broken Bay is diversified by projecting headlands, connected by long sand-bars with lagoons, and tea-tree swamps within them, but the coast between Port Hacking and Illawarra may be termed a bold and uninterrupted line of mountain-cliffs. This bold outline of coast mountain-cliffs continues southward from Port Hacking about forty miles, when it connects with the Mittagong range near Bong-Bong, by taking a westerly direction. After passing what is called the "Coal Cliff," which is about thirty-four miles south of Port Jackson, the rich flats of the Illawarra country commence, between the base of the mountain-precipices and the sea, and the range then lies back further from the shore.

The view from the summits, over a point on the coast called Bulli, is extensive and grand, and here the table-land suddenly breaks off in abrupt perpendicular masses of rock, and falls in steep wooded undulations towards the shore. The descent of the road is difficult, and may be called dangerous for horsemen; yet, many as there are who travel up and down, an accident rarely occurs. The traveller in his descent finds himself entering a totally different region from the country which he has passed over in his journey towards the mountain. The main road from Sydney to Illawarra branches off from the Parramatta road about five miles from the capital, and passes through Liverpool about sixteen miles further a little south of westward. This town is the thoroughfare, at present, to the main southern roads, and the bush through which this main road has been made is for many miles very dreary and uninviting. The soil, also, is rotten in many parts, and, consequently, there have been few farms cleared, and the tedious sameness of the aspect is not relieved. It crosses two or three salt-water creeks which flow into George's River, one of which may be nearly

thirty yards or more wide. The bridge-builders have been very unfortunate on this creek, since there has scarcely ever been a flood but the bridge has disappeared, and the whole fabric been swept away. Another part of this road (which, indeed, with these exceptions, is very good,) is subject to an inundation for nearly half a mile, which prevents carriages from passing. The land is low and flat, and there is not a sufficient drain to carry off or hold the water.

The screech of the black cockatoo, and the sounding note of the bell-bird, often arrest the traveller's attention. The former always resort in these dismal forests, and are scarcely ever seen (like the white cockatoo) in cheerful and open lands. They are neither so plentiful or common as the white, nor do they congregate in such flocks, as more than seven or eight are seldom seen together. They are of a jet shining black, having a formidable crest of feathers on the top of the head, which they erect at pleasure; but the inside of the wings, and the wide feathers of the tail, are of a brilliant red. They feed mostly upon insects, and cut out grubs from the bark of trees with their powerful beaks; but they rarely, if ever, annoy the settler by attacking his maize-fields, nor have I ever heard of one being tamed. The bell-bird is small and plain, and celebrated only for its peculiar note, which is strikingly clear, and remarkable in sound. It is invariably the inhabitant of sequestered ravines and mountain-hollows.

The site of the town of Liverpool is close to the bend of George's River, as I have before mentioned, where it turns eastward toward the sea. The form of the town is apparent, from the streets being laid out of a good width and fenced in, but the houses are few and scattered. The surface of the town, as well as the neighbouring country, is flat and dismal. There is, however, a good church, and a very superior hospital in the town, which, though built of brick, has been erected in creditable style. There is also a gaol, which is surrounded by a wall, and a kind of timber-yard and barrack for prisoners. The river, probably, hereafter, may be of more importance to the place, but at present it is used only for the conveyance of heavy materials, as wood, stone, lime, and manure, &c., in boats.

About three and a half miles south of Liverpool, the road branches off to Campbell-town, which is eight miles further on, and then continues southward through the Appin district, till it crosses Tuggerah Creek, at a place called King's Falls, from whence it turns directly eastward to the descent of the mountain, the whole distance from Sydney being nearly fifty-four miles. The land from Liverpool begins to improve, and there are several good farms and gentlemanly residences towards Campbell-town. The Appin range is also under extensive circulation, and the soil is for the most part excellent; but as soon as the road crosses the King's Falls, utter barrenness and gloom accompany the traveller to the mountain. Campbell-town is merely a village, having but one street, the houses of which are nearly all inns. There is a small church and court-house, which are both built of brick. The town is often badly off for water in dry seasons, and the people are obliged to fetch it from Tuggerah Creek, which is more than a mile distant.

Now, as I have before stated, the inland features, as well as the boundaries of this portion of country, are nearly of a similar character to the country described between Port Jackson and Broken Bay. There is in both a river on the north, the sea on the east, a range and road on the south, and the same on the west. The boundaries of both include nearly

an equal portion of useless lands, and the very shape or form of the lands so included are not widely different. The mountain-rivulets of both derive their sources from the southern extremities, flow northward the same, and disembogue themselves in a similar way, into rivers or inlets of the sea.

Again, these two districts, which lie so immediately north and south of Sydney, possess similar disadvantages in the formation of their narrow, broken ridges and impassable ravines, and it is probable that both portions will remain like some regions of the Blue Mountains, a blank, uninhabited and useless. Tracts of country, which, though surrounded as they are by the industrious labours of men, will, nevertheless, remain for years and years unnoticed and unseen. A road, a path, or even a deserted hut, gives life and expectation to a place,—it shows where some one has been, and once dwelt; but the solitude and awful dreariness which reigns amid the trackless chaos of dark and impassable ravines is disheartening.

W. R. G.

WHEN any one acknowledges a moral governor of the world; perceives that domestic and social relations are perpetually operating, and seem intended to operate, to retain and direct men in the path of duty; and feels that the voice of conscience, the peace of heart which results from a course of virtue, and the consolations of devotion, are ever ready to assume their office, as our guides and aids in the conduct of all our actions;—he will probably be willing to acknowledge also that the means of a moral government of each individual are not wanting; and will no longer be oppressed or disturbed by the apprehension that the superintendence of the world may be too difficult for its Ruler, and that any of His subjects and servants may be overlooked. He will no more fear that the moral than that the physical laws of God's creation should be forgotten in any particular case: and as he knows that every sparrow which falls to the ground contains in its structure innumerable marks of the Divine care and kindness, he will be persuaded that every man, however apparently humble and insignificant, will have his moral being dealt with according to the laws of God's wisdom and love; will be enlightened, supported, and raised, if he use the appointed means which God's administration of the world of moral light and good offers to his use.—**WHEWELL.**

RELIGION is too often represented as a state of melancholy gloom, as a barren desert, in which we are condemned to wander without one object to delight the eyes, or to cheer the heart; as a dreary banishment from all the innocent pleasures and harmless gratifications of the world around us. But it is not in the solitude of seclusion, it is not in austerities of perpetual and monastic penance, that Christianity consists; it is a religion of joy; it promotes the happiness of mankind here, as well as hereafter. Happiness is not only pointed to as an object, but it is inculcated as a duty. They, therefore, form a very erroneous estimate of its doctrines and its duties, who shall represent melancholy as its precept, or enforce severity as its practice. It is the messenger of glad tidings to man, it is the minister of comfort to the afflicted children of mortality; to every disconsolate soul, as to Jerusalem of old, it speaks comfortably; it tells her that "her warfare is accomplished, that her iniquity is pardoned." On the other hand, he that would unite the joys of the Lord with the pleasures of sin, he that would combine the purity of the Gospel with the pollution of guilt, will discover too late that he cannot enter into a composition with the Almighty for the gratification of his passions, and that when the infatuations of sin shall have passed away, no joy will then remain, but a fearful anticipation of the wrath to come. It is in the innocent mind alone, that the happiness of Christianity can take root; and as the purity of the soul is stained with the contagion of guilt, in such proportion will its real joys fade off from the polluted surface.—**RENNELL.**

FRIENDSHIP hath the skill and observation of the best physician, the diligence and vigilance of the best nurse, and the tenderness and patience of the best mother.—**LORD CLARENDON.**

POPULAR ILLUSTRATIONS OF LIFE
ASSURANCE.

II.

HUMAN LIFE AND THE TABLES OF MORTALITY.

It would only be repeating an acknowledged truth, to say that Human Life is uncertain, and that its duration varies, according to the age and circumstances of the life proposed. But although age may in some measure denote the value of life, it does not necessarily follow that an equality in age will produce an equality in the duration of existence. There are very few of our readers who could not select, from the circle of their own acquaintance, many who, with equal ages, have by no means an equal prospect of seeing the commencement of another year. During the patriarchal ages, before the follies and intemperance of mankind had spread disease and its consequent miseries, age might perhaps with propriety have been adopted as the standard measure of longevity; but of later years it has only served to measure out the portion of existence due to mankind collectively. The life of man may terminate at any period between birth and the extremity of old age, and although it would be extremely difficult to assign the exact period at which the dissolution of a single individual might be expected to occur, yet it is by no means so difficult a task to portion out the number of years due to a large mass or body of mankind. The progress of population and the waste of life, have long since been found to be regulated by an absolute and almost unerring law. It is not indeed pretended that the action of this law is everywhere the same. It would be the extreme of folly, to suppose that the duration of existence is the same amongst all nations, and in all climates, at all periods, and among all classes of society; a thousand causes interfere either to increase or to diminish the mortality of particular places, and particular periods. Some countries are scourged by periodical epidemics, and some periods are marked by scarcity and famine. The waste of life is greater among people who arrive early at maturity, than it is among those in whom maturity is backward. It is for this reason that the natives and inhabitants of warm climates, who are, as it were, forced into premature perfection, seldom or ever reach the extremity of life; nor do we want evidence to show that the waste of life is sensibly affected by the comparative scarcity or abundance of provision. Every material rise in the price of food, is invariably attended by a corresponding decrease in the number of the yearly births, by an increase in the sickness, and by an excess in the mortality of that year; but, with all this apparent fickleness of nature to contend with, our statisticians have traced the mortality of the different countries and classes of mankind, with an exactness and regularity which is scarcely credible.

The constitution and arrangement of the human frame, however perfect it may originally have been, intimate that it was not formed to continue in healthy action, or to perform with regularity its various functions, for a longer period than seventy or eighty years. From constitutional defects or hereditary weakness,—from intemperance, self-indulgence or folly,—a certain number of every generation fall sick, and of these a certain number annually die, at every age, but in such a manner and by such a law, that the rate of mortality gradually diminishes from birth to puberty, and is from that period gradually accelerated until the extremity of life. Life may, indeed, be said to be divided into

three distinct periods or eras, namely:—The period from infancy to puberty, or the commencement of manhood; from and during manhood to the commencement of old age; and from the beginning of that era to the termination of existence. During infancy life is exceedingly precarious, and the mortality of that season far exceeds the mortality of a middle age. This is in a great measure owing to the delicacy of the human frame at this very tender age, and to the fatality of the numerous disorders which infect childhood in its very early states. The period of manhood is marked by a certain but a slow decay, while from old age to death, the velocity of mortality is extremely great. In these papers it will be our object to confine our inquiries to the observations which have been made on the duration of life in our own country, and among our own people, and to the use which has been made of the materials collected in the construction of the various tables of mortality by which the Life Offices regulate their charges.

The observations, upon the accuracy of which the law of mortality in this kingdom depends, have been chiefly drawn from the examination of the parish registers of different cities, towns, and villages, and from the population and other returns made to Parliament. The origin of the parish registers and bills of mortality as they are still called, has been already given in a former paper in the *Saturday Magazine**. Other and very different sources have been examined, and have been found to produce data, in some cases, superior to that procured from the registers of even the oldest parishes. We shall, in the course of this paper, allude to the various sources which have provided data for these inquiries, but we cannot promise more than a very brief sketch of the subject, and a short but succinct account of the three or four principal Tables which have been constructed upon the materials furnished by the British empire.

The first in importance, and the oldest, of these tables, was formed by the celebrated Dr. Price, from the parish registers of the town of Northampton, a small central and healthy borough town, which in itself combines many of the advantages of both town and country. We shall not be able in this place to give a detailed account of the method pursued by Dr. Price in forming this table, the tabular numbers of which are, of course, wholly artificial, and have been produced by a series of mathematical assumptions, but the ground-work of it is substantially correct, and founded upon real observations. It is not to speak too favourably of this table, to say, that frequent use and subsequent experience have concurred in rendering testimony to its value and accuracy, especially in the later stages of existence. In its tabular form it consists of 11,650 individuals, who are traced from birth to the termination of existence, which, according to this table, is at the age of ninety-six years. The numbers dying in each year are noted, and, consequently, the number surviving to commence the ensuing year. In its form it is as follows:—

Age	No. Born and Living at the Commencement of each Year.	No. Dying each Year.
At Birth	11650	3000
At 1 year	8650	1367
" 2 years	7283	502
" 3 "	6781	335
" 4 "	6446	197
" 5 "	6240	184

From an examination of the above specimen, the nature of these tables will be made apparent; it commences with the birth of 11,650 children, out of

which number 3000 are supposed to die the first year, so that the total number of survivors who complete their first, and who enter upon the second year of their age, are equal to 8650; out of this number 1367 die during the second year, leaving 7283 to complete the age of two years, and so on. The numbers in the first column all along represent the survivors who enter upon every new year; and the numbers in the second column, those who annually die, when the table is carried on to the extremity of life. The total number of deaths (the sum of the second column,) is always equal to the number originally born; and the sum of the first column, or those living at every age, may be said to represent the population of the table, so that had the numbers in the table been real instead of artificial products, that is, had they been equal to the numbers actually living and dying in the town of Northampton, the population in the table would have represented the real contemporaneous population within the walls at the commencement of every year. It will, however, be seen from this, that such an hypothesis is founded on a supposition that the population of the town has remained quite stationary for a long series of years, as there is no allowance made for the admission of new settlers or for an efflux by emigration. But the construction and uses of this table will be better explained and more fully understood, when we come to determine from it the probabilities of existence. Although this table has been, until very recently, the one adopted by Government as the basis of its annuity system, and by almost all the principal Assurance Societies, yet an opinion has lately got abroad, that it gives the mortality of the early ages too high, and is consequently too unfavourable to the duration of human life. This opinion, which is almost universally entertained, owes its origin to the fancied improvement which has taken place in the condition of the national health, an improvement supposed to have been produced by the co-operation of several causes, among the most prominent of which we may venture to place the very general introduction of vaccination, and the consequent extirpation of that dreaded malady, the small-pox. How far this opinion is supported by experience, it will presently be our business to examine.

The table next in estimation to the Northampton, is one formed by the ingenious Mr. Milne, upon a series of observations made by Dr. Heysham, on the mortality of the city of Carlisle. It is in its nature, properties, and general arrangement, similar to the Northampton, but in its arithmetical results it differs widely from its rival table. It gives a rate or velocity of mortality considerably less than the Northampton, and consequently supposes life of greater value. It terminates existence at the advanced age of one hundred and four years. The propriety of adopting so extreme an age may very well be doubted; for although some extraordinary instances have occurred of individuals reaching ages even beyond this, yet they have been so few in number, and are of such rare occurrence, and so unsupported by credible testimony, that it is scarcely prudent to protract a table which is intended for general use, to ages beyond one hundred years.

A very extensive series of tables have been constructed by Mr. Finlaison, the State Actuary, from his own observations on the national life annuants and Government tontines; but of their value, or of the accuracy with which they have been done, we are not prepared to speak, as we have been nowhere furnished with a clear statement of the materials he has collected, nor of the manner in

which those materials were used. A considerable number of these tables, with their monied values, have been published by Mr. Finlaison in a Parliamentary paper or report upon the subject of Life Annuities.

A much more valuable and important addition has, however, been made to the statistical literature of the kingdom, by a publication of the Equitable Society in the year 1834, consisting of a singularly clear and accurate record of the rate of mortality among its members. It is accompanied by a curious and really interesting nosological table, which cannot fail to throw considerable light upon the doctrine of vital statistics, and which exhibits the proportion in which the different disorders prevail amongst mankind at different ages, in a very exact and curious manner,—added to which, Mr. Morgan, the compiler of these tables, has, at the expense of considerable labour to himself, furnished us with the rough materials from which his various conclusions have been drawn. The Equitable Assurance Society, one of the oldest of its kind, was first established in the year 1762, and these tables are brought down as far as the year 1829; in fact, going over an actual period of upwards of sixty years. The materials given in this publication, consist of the real numbers living, dying, and withdrawing from the society; but they have been very ingeniously adapted by Mr. Morgan, in the two tables which he has constructed, to an artificial radix, in order to simplify their arithmetical results. It is a curious circumstance, that these tables in their older ages approximate very nearly to the Northampton, and, indeed, in some instances, the mortality of the Equitable is in excess; doubtless, when the experience or a few more years shall be added to the data of which we are already in possession, a greater similarity will be found to exist between these tables.

It must be remembered that in the Equitable Society every assurer is selected from a mass of chosen lives in the middling and upper ranks. This may, in a great measure, account for the diminution of mortality during the early ages, and is in reality a still further proof of the exceeding accuracy with which the Northampton table represents the mortality of a mixed population. In addition to the tables already named, there are several others of great value formed from observations on the rate of mortality amongst particular classes, in our own and foreign countries. Of late years, inquiries into these subjects have been much extended, and to that circumstance we owe our knowledge of a difference which has been found to exist in the relative values of male and female life. We must, however, be satisfied with very briefly noticing the subject, as it would occupy too considerable a portion of our space and time, to investigate it as fully as it deserves. The rate of this difference has, of course, been very differently estimated; but, in round numbers, we may say that the value of female life exceeds that of male life, in the proportion of about eleven to ten. Some of the Assurance Societies, overrating the importance of this difference, have made a distinction in their charges for the assurance of the life of a male and female. But in most offices, the number of assurances which are effected upon the lives of women are so few, that it is scarcely safe, and certainly not worth while, to make the distinction. In our next paper, we shall investigate the mode of determining the probabilities of human life from these tables of mortality, and we shall attempt to explain and illustrate the subject, by a few easy and familiar examples from the doctrine of chances.

ODE, ON A LATE SPRING,

WRITTEN IN THE EARLY PART OF THE YEAR 1837,

By SIR WILLIAM AINSWORTH, BART.

SULLEN and sad the early months passed o'er,
 Few were the flowerets, leafless were the trees,
 Till the soft showers their genial influence pour,
 Till glowing warmth floats on the southern breeze.
 Timid the buds, till storms and clouds retire,
 No sap to urge them, and no suns to fire.

Brown are the meads, th' imploring kine
 For verdant food, impatient, pine.
 If freshness spots the pastures bare,
 Eager they scour the bliss to share.
 Each patch of green, that gleams in sight,
 Is cropped with eager, quick delight.
 Scanty the meal, and short the pleasure,
 Valueless the promised treasure;

A russet mantle wraps the country round,
 Nipt is each blade of grass, and hard the arid ground.

A deadness vegetation feels—
 Shrivelled by the frosty air
 The vegetable blood congeals—
 The wheat alone presents a prospect fair.
 The driving blasts sweep o'er the plains,
 And seeming desolation reigns.

Aghast the shepherd the drear scene surveys,
 As, with his starving flock, across the heath he strays.
 The heavy hours in gloomy circles rolled,
 Keen were the piercing winds, the nights were bitter cold.

Slow the advances of much wished-for Spring,
 Tardy her step, and closed her wing,
 Till May bursts forth—whose cheering voice
 Bids woodlands, hill, and dale rejoice;
 May paints with emerald-tints the sea,
 And robes in green each shrub and tree;
 Makes slumbering flowerets ope their eyes,
 And incense-odours fill the skies;
 Bids lambskins sport, bids warblers sing,
 Infusing life through everything.

Swift the ethereal essence darts,
 Wondrous its latent sway;
 Fresh vigour quickly it imparts
 To every plant that shines beneath the solar ray.

Melodious concerts fill the air,
 For all, who wave the wing,
 In sweet, and varied notes declare,
 The rapid march of Spring.

Perhaps, O Spring, thy long delay,
 May make thy choice gifts doubly dear;
 Birds, groves and flocks confess thy sway,
 Thou renovator of the year!

Blessings, which daily we receive,
 Too oft are viewed with thankless eyes;
 But if withdrawn, or veiled, we grieve,
 And learn, at last, when lost, their value high to prize.

Full oft, from what mankind deplore,
 Advantages arise;
 Good often will from evil flow,
 Mercy oft comes in garb of woe.

The Christian to restore.
 Almighty power, by unknown skill,
 Can all things mould to meet his will.
 Thus taught, let men with seraphs soar,
 Thus taught, let men with saints adore
 The wisdom of the skies.

Checked hopes will our dependence show,
 And mark how much to Heaven we owe.
 Disappointments oft will bring
 Balm which will extract the sting.
 If late—the beauteous blossoms blow,
 The germs less dread of blight will know;
 If late—the choice flowers lift their head,
 More rich, condensed, their bloom will spread;
 If so late—the Spring appears,
 Will it not silence many fears?
 So late—pass one revolving moon,
 And May will yield to glowing June;
 So late—no frosts will now assail,
 Nor withering, biting, eastern gale;
 Spring's slow approach will guard our flowers,
 And load with fruit the Autumnal bowers.

If late—Spring meets our raptured eye,
 Our floral stores more safe will lie.
 Expanded by the breath of May,
 Myriads of odorous plants will rainbow-hues display.

Come, O Spring, with bright beams crowned,
 Shed thy nurturing warmth around;
 Rush upon our ravished sight,
 Fill our senses with delight:
 Whether we chide thy long delay,
 Or, humble, for thy presence pray;
 Whether thy loss we, trembling, dread,
 Or fear thy balmy breath is fled;
 We greet thy rays, however late,
 And for thy wonted blessings wait.
 Soon as thy rosy smiles appear,
 They dash aside the starting tear;
 Thy influence bland all Nature feels,
 We joy to hear thy chariot-wheels,
 We love the fluttering of thy wing,
 And hail with shouts of joy, the glad approach of Spring.

For past unfruitful days atone,
 O Spring, by radiance all thy own;
 Where'er thou turnest thy cheering face
 With garlands gay our gardens grace,
 Let living tints thy presence show,
 O'er all lands let thy breathings flow;
 The new-sprung leaves let gentlest zephyrs wave,
 Let mantling verdure fertile valleys lave;
 In double tides thy valued gifts bestow,
 And make, with blossomed boughs, th' embroidered landscape glow.

ERUPTION OF
 THE SOUFFRIERE, OR BURNING MOUNTAIN,
 IN THE ISLAND OF SAINT VINCENT.

ON Monday, the 27th of April, 1812, while the noon-tide bells were ringing upon the several plantations in St. Vincent's, a sudden and tremendous explosion of the volcano took place, accompanied by a tremulous motion of the earth. A vast column of smoke was seen to ascend from the crater, from which also were discharged immense quantities of a fine, gritty, calcined earth, and other substances. On Tuesday, the 28th, the column of smoke and ashes appeared to ascend perpendicularly to a great height; on the following day it seemed to dilate towards the highest portion that could be observed, and the mountain and its neighbourhood were enveloped in a thick mist, which the rays of the sun being unable to penetrate, a shade, as of midnight, was cast over the whole island. Fire was, for the first time, observed this night, about the edge of the crater. The eruption continued increasing, and on Thursday the masses of vapour assumed a ferruginous or blood-stained tint, and ascended with much greater rapidity. In the afternoon of that day the noise became incessant, with a vibration that affected the feelings as much as the hearing; but as yet there was no convulsive shock of the earth. Birds now fell to the ground, covered with ashes; and the cattle (from the pasture and all vegetation being covered with the same ashes) were perishing for want of food. At four, P.M., the noise became louder and more alarming, and as day closed, large sheets of flame were observed to burst through the smoke. Electric flashes quickly succeeded, attended with deafening peals of thunder. Huge spouts of fiery fluid were vomited forth, while the zigzag lightning seemed to play with the still increasing column of smoke. Burning masses were thrown up, and exploded like rockets, while others were shot off obliquely like shells. Shortly after seven, the mighty caldron seemed in ebullition, and a stream of lava burst forth on the north-west side, which, in about three or four hours, reached the sea in its liquid burning state. At half-past one, A.M., another stream was poured

out to the eastward. The thundering awful noise of the mountain, mingled with the monstrous roar of the lava flowing over the surface, became so terrible, that dismay now yielded to despair.

The first shock of an earthquake was felt about this time, and was followed by a shower of cinders, which continued falling with a hissing noise for upwards of two hours. About three, A.M., stones of a small size began to fall. The coruscations, roaring and crackling of the mountain, at this time exceeded all that had previously taken place. The eyes were struck with blindness, and the ears were stunned to deafness with the confusion of sounds. The rain of stones continued for about an hour, when it was succeeded by cinders and ashes. During the whole of this time, the island was in a state of continued undulation, not agitated by any shocks, but rather like a solid substance swimming in water kept in motion.

The morning of Friday dawned like the day of doom. A gloomy shadow enveloped the mountain, and a dismal haze, with black sulphureous clouds, hung over the sea. In the afternoon, the voice of the mountain became silent, but flames continued to issue from the summit for several days. The depth of volcanic matter in some places was fourteen inches but near the town not above half an inch.

[Abridged from SIR ANDREW HALLIDAY'S *Work on THE WEST INDIES.*]

THE POMEGRANATE. (*Punica granatum.*)

THE Pomegranate in its wild state is a shrub, about eight or ten feet in height, extremely bushy, and covered with spines; but in a cultivated state it has attained nearly twice this size, particularly in the South of Europe. The flowers, which are tolerably large, are of a beautiful red colour, and nearly without a footstalk, the fruit which succeeds the blossom is, in the wild plant, about the size of a walnut, but in the cultivated varieties it exceeds that of a large apple. The fruit, when ripe, is covered with a hard rind, and contains numerous seeds, each surrounded with a pulp of a pleasant acid flavour, and contained in a small cell. The Pomegranate is believed to

have been brought originally from Northern Africa, and from the country near Carthage; from this is supposed to have arisen its Latin name of *Punica*, meaning Carthaginian. At present it is found in a wild as well as in a cultivated state in the greatest part of the South of Europe, and also in the Levant.

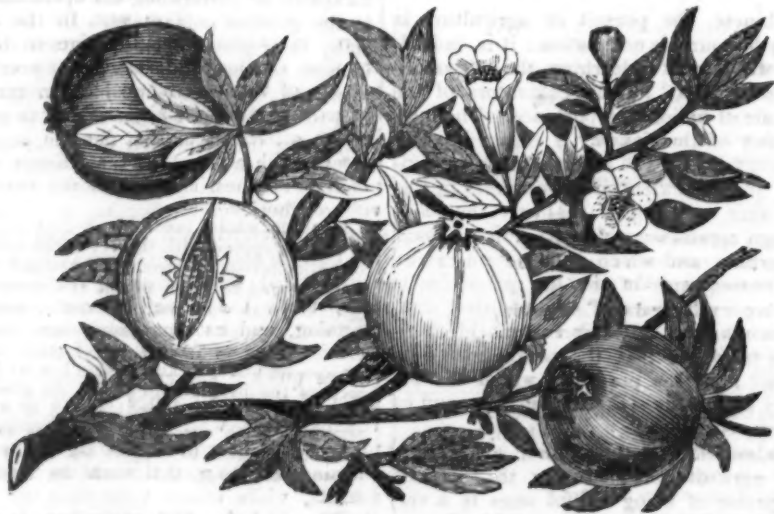
The beautiful colour of the blossom of the Pomegranate, and the refreshing nature of the pulp contained in the fruit, were the cause of much attention being paid to its cultivation, even by the ancients; Pliny, the Roman naturalist, mentions six varieties, the fruit of the most highly prized of which, consisted entirely of pulp, being quite without seeds. The moderns reckon three varieties cultivated for the sake of the fruit, namely, that with an acid fruit, the second, in which the pulp is of a sweetish acid, and another in which it is perfectly sweet.

But there are many varieties cultivated for the sake of the flowers, which are of various colours, some striped, some famous for their size, and others for being double. In the northern parts of Europe, the Pomegranate is only cultivated for the sake of its flowers, the fruit being small and unpalatable, and even when cultivated it must be kept in the greenhouse for the greater portion of the year.

This shrub is supposed, under favourable circumstances, to reach a great age; some specimens are, or were, in the orangery at Versailles, which were reported to be from two to three hundred years of age.

The pulp of the Pomegranate is much used in medicine in those countries where it abounds, as a liquid and as a syrup in cases of fever, and the shell of the fruit is said to be employed, on the coast of Barbary, in the preparation of yellow morocco.

The Pomegranate is found in America as well as Europe, and it is said, that in Peru, they sometimes occur of an enormous size; when one of extraordinary dimensions is found, the Spaniards carry it in procession at some of their religious festivals. It was held in much estimation by the ancients, and in a temple in the island of Eubœa, there was formerly a celebrated statue of Juno, made of gold and ivory, which held a pomegranate in one hand, and a sceptre in the other; it was also a symbol of Proserpine.



THE POMEGRANATE.